

REMARKS

The Examiner is thanked for the thorough examination of the application. The specification has been amended to insert headings. A substitute Abstract is provided that is within 50-150 words. No new matter is believed to be added to the application by this Amendment.

Status Of The Claims

Claims 1 and 3-18 are pending in the application. Claim 2 is canceled and its subject matter is incorporated into claim 1, and the amendments to claim 1 find additional support in Figure 4. Claim 5 finds support at page 9, line 26 and at page 10, line 6 of the specification. Claim 6 finds support at page 10, lines 6-9 of the specification. Claim 7 finds support at page 10, lines 9-14 of the specification. Claim 8 finds support at page 12, lines 20-22 of the specification. Claim 9 finds support at page 13, line 29 of the specification. Claim 10 finds support in Figure 4. Claim 11 finds support at page 13, line 13 of the specification. Claim 12 finds support in Figure 4 and at pages 11-12 of the specification. Claim 13 finds support at page 12, lines 20-22 of the specification. Claim 14 finds support in Figure 4. Claim 15 finds support at page 13, line 13 of the specification. Claim 16 finds support at page 12, lines 8-11 of the specification. Claim 17 finds support at page 5, lines 12-17 of the

specification. Claim 18 finds support at page 11, lines 26-28, at page 12, lines 7-8 and at page 13, line 23 of the specification.

Rejection Under 35 U.S.C. §112, Second Paragraph

Claims 3 and 4 are rejected under 35 U.S.C. §112, second paragraph as being indefinite. Applicant traverses.

In the Office Action, the Examiner asserts that the claims would be more definite if claim 3 depended upon claim 2 rather than claim 1. However, claim 2 has been cancelled and its subject matter has been incorporated into claim 1. Also, the term in question ("said inner circumferential groove") has been removed from claim 3.

As a result, the claims are clear, definite and have full antecedent basis.

This rejection is overcome and withdrawal thereof is respectfully requested.

Rejections Based on EP '143 and Hubbell

Claims 1 and 2 are rejected under 35 U.S.C. §103(a) as being obvious over EP '143 (EP 790143) in view of Hubbell (U.S. Patent 5,733,393). Claims 2-4 are rejected under 35 U.S.C. §103(a) as being obvious over EP '143 in view of Hubbell (as applied to claims 1 and 2) and further in view of JP '804 (JP 3-

159804) and optionally in view of at least one of JP '303 (JP 7-81303), JP '520 (JP 9-207520) and JP '203 (JP 4-110203). Applicant traverses.

The present invention pertains to a pneumatic tire that has a circumferential rib, namely, a circumferentially continuous tread element that is formed in the tread center region. Such a rib functions as a hoop. Accordingly, the swelling of the tread center region is controlled. This means that the ground contacting area is changed toward a rectangle rather than a round.

Further, the shoulder parts are circumferentially divided by the axial grooves and the resultant shoulder blocks are further divided by the narrow grooves. The shoulder parts cannot function as a hoop, and this allows swelling of the tread shoulder region. This again means that the ground contacting area is changed toward a rectangle rather than a round.

In connection with the angle (θ_1), as the ground contacting area comes close to a rectangle, the toe-side and heel-side edges of the shoulder part becomes short and parallel to the axial direction. In this condition, if the axial grooves are almost parallel with the axial direction, or the angle (θ_1) is almost 90 degrees, during rotating the toe-side and heel-side edges are very liable to coincide with the groove edges. As a result, the shoulder blocks suffer from so-called heel-and-toe wear.

By setting the angle (θ_1) in the claimed range, this condition and resulting heel-and-toe wear can be avoided, and the resistance to uneven wear can be improved.

EP '143 is utilized for details of tire construction including a breaker belt **7** having at least two crossed plies (7a, 7b) and a band belt **9** having full width band **9A** and a pair of axially spaced edge bands **9B**. The Examiner admits that EP '143 fails to disclose the "footprint factor" (length ratio of contacting face) of 75 to 85% claimed in claim 1 of the present invention.

However, the technology of EP '143 changes the ground contacting area from a substantially rectangular shape (b) shown in Fig. 9(b) to a barrel like shape (a) shown in Fig. 9(a) of EP '143.

In contrast, the present invention changes the ground contacting area toward a rectangle rather than a round. As the ground-contacting area approaches rectangularity, θ_1 approaches 90 degrees to thus reduce heel-and-toe wear.

The Examiner turns to column 6, lines 1-13 of Hubbell for teachings pertaining to a footprint factor of 1.0 to 1.3. The Examiner turns to JP '804, JP '303, JP '520 and JP '203 for teachings to blocks and grooves. However, none of these secondary references addresses the deficiencies of EP '143 in suggesting a tire having a rectangular ground contacting area, such as is described in claim 1 of the present invention. One having ordinary skill in the art would thus not be motivated by EP '143 to produce claim 1 of the present

invention, and a *prima facie* case of obviousness has thus not been made.

Claims depending upon claim 1 are patentable for at least the above reasons.

These rejections are overcome and withdrawal thereof is respectfully requested.

Information Disclosure Statements

The Examiner is thanked for considering the Information Disclosure Statements filed January 22, 2004 and June 28, 2004, and for making the PTO-1449 forms of record in the application in the Office Action mailed September 14, 2005.

Prior Art

The prior art cited, but not utilized, by the Examiner indicates the status of the conventional art that the invention supercedes. Additional remarks are accordingly not necessary.

The Drawings

The Examiner is respectfully requested to indicate whether the drawing figures are acceptable in the next Official Action.

Foreign Priority

The Examiner has acknowledged foreign priority and noted that none of the certified copies of the priority documents have been received, as is set forth in the Office Action mailed September 14, 2005.

Conclusion

The Examiner's rejections have been overcome, mooted, or obviated. No issues remain. The Examiner is accordingly, respectfully requested to place the application into condition for allowance and to issue a Notice of Allowability.

If any outstanding matters remain, the Examiner is asked to contact Robert E. Goozner (Reg. No. 42,593) at the below-listed telephone number in the Washington metropolitan area.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a two (2) month extension of time for filing a reply in connection with the present application, and the required fee of \$450.00 is attached hereto.

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Respectfully submitted,

By 

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